

CLAIMS

1. A semiconductor device testing apparatus that detects a pass/fail threshold within a prescribed test range for a semiconductor device based on a binary search method, comprising:

initial value setting unit for setting either an upper-limit value or a lower-limit value of said test range as a pass value, and the other limit value as a fail value; and

device measuring unit for performing measurement by means of the binary search method on said semiconductor device with the said set pass value and said set fail value.

2. The semiconductor device testing apparatus according to claim 1, further comprising initial value changing unit for changing at least one of said pass value and said fail value set by said initial value setting unit so that said test range is extended by an amount equivalent to a prescribed value,

wherein said device measuring unit performs said measurement using said pass value and said fail value after the value has been changed by said initial value changing unit.

3. The semiconductor device testing apparatus according to claim 2, wherein said prescribed value is equivalent to a measurement resolution.

4. A semiconductor device test method for detecting a pass/fail threshold within a prescribed test range for a semiconductor device based on a binary search method, comprising:

a first step of setting either an upper-limit value or a lower-limit value of said test range as a pass value and the other limit value as a fail value;

a second step of setting a measurement position in accordance with the binary search method, using said pass value and said fail value;

a third step of performing a prescribed measurement on said semiconductor device at said measurement position set in said second step;

a fourth step of setting said measurement position set in said second step as said pass value if the measurement result obtained in said third step is a pass, or setting said measurement position set in said second step as said fail value if said measurement result is a fail; and

a fifth step of calculating a difference between said pass value and said fail value after a processing in said fourth step is completed, and giving a command to repeat the processing from said second step onward until this difference is equal to or less than a measurement resolution.

5. The semiconductor device test method according to claim 4, wherein said first step extends said test range by an amount equivalent to a prescribed value, and sets said pass value and said fail value corresponding to the upper-limit value and lower-limit value of that range.

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